

## **Q&A:**

### **QUESTIONS ABOUT MICROPLASTICS/FIBRESAND**

#### **What counts as microplastics?**

Microplastics are very small plastic (or other synthetic polymer) fragments, from a big range of sources; either fragmentation of larger objects, as in plastic waste, or manufactured for use for example in cosmetics. Microplastics are an increasing environmental concern. The general definition for size, and the one used in our study, is that microplastics are synthetic particles less than 5 millimetres. The wording in EU's recent legislation aimed at reducing microplastic contamination of the environment include a wider definition, of threadlike particles at up to 15 millimetres in length. For sports surfaces such as fibresand the ban will be in place 2031.

#### **What kinds of materials do the fibresand fibres consist of and where does it come from?**

Fibre and textile have been used in equestrian surfaces for more than 30 years, with the aim to improve functional properties, increasing shear strength and stability, and improving consistency of the surface. The fibre additive which is mixed with sand to create fibresand, comes from a range of sources, including recycled materials. Analysis of the samples used in this pilot study shows polyester as the most common material.

#### **The study report says the fibresand market is heterogeneous, could you please elaborate?**

We pointed this out already in 2014 in the Swedish Equestrian Federation's Equestrian Surfaces - A Guide. Apart from sourcing of fibre materials there are also wide differences in different producers' choice of sands, and proportions of sand versus fibre. One example of how the market is becoming more regulated is a recent UK ban on recycled carpets for use in fibresand (this material has not been that common in Sweden).

#### **Will we use fibresand surfaces in the future?**

Long-term the answer is no. From 2031 fibresand cannot be sold in the EU, based on new legislation from September 2023. The time frame is designed to offer a transitional period to find alternative materials. While there is no ban on the use of fibresand, the restricting factor for existing arenas will be that from 2031 they cannot have new material added, so in the long term fibresand will therefore be phased out.

#### **Is it possible to design a fibresand mixtures that would be outside the EU restrictions?**

Technically yes, with careful choice of materials. But this would be a very short-term option. In our study there are already some raw material samples with zero microplastics when defined as less than 5 mm. With expert laboratory help, materials with the wider definition (up to 15 mm threadlike fibres) could be excluded, but again this is not a viable long-term option. With use there will be fragmentation into smaller particles from wear and tear and ultraviolet light, so called secondary microplastics. The EU is expanding its microplastics restrictions to cover more of this type.

#### **Why was the research important?**

When the project started, the EU legislation on microplastics in sport surfaces (and other sources) was still under consideration. Studies of microplastics in artificial turf had received major funding and the material found to be a major source of microplastic contamination in the environment. Due to something called the precautionary principle fibresand was presumed to be a similar problem as artificial turf, even though there was no data at all on the microplastic content of fibresand arenas, that has a very different composition.

Our study in fact shows that if the EU restrictions had not used a wider definition of microplastics

several of the products we tested would not have been included in the ban. Regardless of definitions and threshold levels, equestrian sports do need to contribute to the reduction of plastics in the environment. Microplastic pollution is an accumulation of microplastics from various sources, and therefore each source is important in its own right. Knowledge on microplastics in fibresand was completely lacking and we are proud to have helped add knowledge on this important topic. The equestrian world needs to become more sustainable and we required a larger understanding on how this popular surface affects the environment.

#### **What happens next?**

Looking ahead there is a need for researching and carefully considering alternative materials ahead of the 2031 ban on sales.

#### **If an equestrian club wants to build a new arena now what surface should they go for?**

There are many aspects to consider, we recommend checking out our guide on surfaces for the full answer. As for fibresand arenas, please note that the expected 2031 ban covers only the sales of intentionally added microplastics in sports surfaces, not the use. An important piece of advice is to ask for documentation of the sourcing of the fibre and the amounts of fibre versus sand in fibresand mixes.

### **QUESTIONS ABOUT THE STUDY:**

#### **How did the study come about?**

The initiative started with a meeting of the Swedish Equestrian Federation's reference group for equestrian surfaces, where a key point was a presentation by the Swedish Environmental Protection Agency about the EU initiative on restrictions on microplastics in sport surfaces, for example artificial turf and fibresand. Cecilia Lönnell, who later led the project, raised the question of why there was no data available on microplastics in fibresand, only assumptions. This led to the Swedish Equestrian Federation's application for a research grant from the Swedish Environmental Protection Agency, in collaboration with the research group that was formed.

#### **Who financed the study?**

The study was set up thanks to a grant from the Swedish Environmental Protection Agency, with further funding from Chalmers University of Technology and the Swedish Equestrian Federation.

#### **What are some potential limitations with this study?**

In a short-term pilot study the data is limited. The fibresand market is a heterogenous market, where our study covered three premium producers, not the entire market. Further studies, including projects covering a longer period of time, would be required to improve the understanding of fragmentation of the fibre material, and water dispersal.